

LEAD CONTAMINATION IN VENISON

FROM BOTH SIDES

North Dakota has been at the center of a national news story since late March, when several state agencies together advised food pantries across the state to stop distributing donated venison because the meat could contain lead fragments.

The North Dakota departments of Health, Agriculture and Game and Fish made this recommendation on March 26 after laboratory testing identified the presence of lead in a number of packages of ground venison destined for food pantries around the state.

This recommendation initially generated considerable skepticism or criticism from some hunters, hunting organizations, venison donation programs in other states, and even a few state wildlife agency administrators. The general theme was that North Dakota “overreacted” in its decision to recommend disposal of several thousand pounds of meat, particularly because the initial study was small and conducted primarily by private citizens (two Bismarck physicians), plus there was no documented or even circumstantial evidence that anyone in North Dakota had ever gotten sick from ingesting lead inadvertently left in game meat.

On the other side, the state Health Department was involved in the final analysis of the packaged venison, and contracted with a nationally certified laboratory to analyze the metal fragments. While the number of samples analyzed was small, the evidence was credible. More than half of the randomly sampled packages of meat contained pieces of metal. The independent lab analysis confirmed the metal was lead.

Given information that a fair amount of meat destined for food pantries contained lead fragments, the agencies involved had to develop a course of action. The choices were:

- A) Not doing anything, knowing there might be an elevated risk of lead (a toxic substance) ingestion by people receiving the meat;
- B) Withholding distribution while conducting further study;
- C) Allowing continued distribution, accompanied by a product warning, while conducting further study;
- D) Recommending disposal of all the donated meat.

Weighing all options, the final decision was to recommend discarding the meat, even though everyone involved knew it would immediately mean a loss for the state’s food banks and the people who depend on them. On the other hand, American consumers have come to expect safe food products and people who depend on food donations should have the same expectations. The steps taken in response to the

discovery of lead are similar to precautions taken when any contaminated food product is found.

This issue will likely generate discussion for a long time to come. The short-term focus has been on the loss of food and whether lead in any game meat, not just venison, has caused anyone to get sick. In the long term, wild game processing, both by individuals and commercial processing facilities, will likely attract considerable attention, as will alternatives for bullets that do not contain lead.

Following is more background on the origins of this issue, and answers to some of the questions raised over the past several weeks.

How was the lead discovered?

A Bismarck physician and hunter contacted the state Department of Health with concerns about the potential of lead fragments from bullets in ground venison. In mid-February he collected 95 packages of ground venison that came from donated deer in three different cities. The venison had not yet been distributed to food pantries. He and another Bismarck physician took X-rays of the meat, and detected metal in 53 packages, roughly evenly divided among packages from the three sources. The Department of Health took five of the positive samples and had them tested at an accredited laboratory in Iowa to target some of the metal pieces. In all five samples, the metal was positively identified as lead.

Why was the venison distribution halted?

Because of the seriousness of lead poisoning, especially for children and pregnant women, the Health, Agriculture, and Game and Fish departments took precautionary measures by recommending that food pantries not distribute any ground venison remaining in their possession.

While a portion of donated meat that was tested in this study had no lead in it, it would be much too expensive and cumbersome to X-ray all of the meat distributed to food pantries to determine if it was contaminated.

What health problems are associated with exposure to lead?

Lead poisoning in adults can have a variety of symptoms, including high blood pressure, behavioral issues, deteriorating coordination, seizures, appetite loss and abdominal pain. Most of the time, the effects are subtle and not obvious. The same symptoms, as well as lower IQs, learning disabilities and stunted growth can appear in children but at much lower levels of lead

exposure. Although lead can cause health problems at relatively low levels of exposure, most people probably will be unaware of the effects unless their lead levels are quite high.

Scientific studies have documented how much lead from paint or lead dust is absorbed, but we are not aware of a defining study that indicates the health effects from swallowing lead from fragmented bullets or shotgun pellets. More research is needed in this area.

Anyone who is concerned about possible exposure to lead may want to talk to his or her doctor about testing for blood-lead levels.

How did the lead get into the ground venison?

It is widely known that many lead rifle bullets fragment to some degree when penetrating an animal. The degree of fragmentation depends on a variety of factors including construction of the bullet, rifle caliber, distance of shot, point of impact on the animal and even size of the animal.

One study in Europe, published in the *European Journal of Wildlife Research* in October 2007, indicated consistently elevated levels of lead up to 15 centimeters (nearly 6 inches) from the original wound channel on red deer taken by hunters. In a couple of cases, small amounts of lead were detected up to 30 centimeters from the wound channel.

Certainly, hunters who cut up their own deer, as well as commercial processors, take great care in removing meat that appears damaged, but there are no official regulations or requirements.

How is the venison donated to food pantries?

Many states have venison donation programs. In North Dakota the donation program is administered by North Dakota Community Action, a nonprofit agency that serves low-income families across the state. Over the last couple of years Community Action has worked with numerous wildlife groups, individual hunters, agencies and meat processors to build a successful program. NDCA receives cash donations to help pay for deer processing, and hunters donate deer.

Meat processors also store the ground venison until it is needed by local food pantries.

The program does not take in meat processed by individuals. Rather, the deer must be field-dressed and delivered by the donating hunter to a licensed meat processor participating in the program.

Have other states tested venison that was part of a donation program?

Yes, the first such test occurred in Iowa, where only trace amounts of lead were found in a couple of samples. It should be noted, however, that Iowa allows



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The lead in venison issue has raised a lot of questions. As answers become available, North Dakota agencies will keep state deer hunters informed.

hunting for deer with shotgun slugs only, and slugs are not known for any significant fragmenting. In addition, Iowa tested only 10 pounds of venison. Iowa suspended distribution of venison from food pantries while the testing was underway, then allowed distribution to resume once the testing was completed.

In Minnesota, however, approximately 25 percent of randomly sampled packages of venison from three different sources contained lead fragments. Minnesota had also suspended distribution of donated venison until tests were completed.

On April 10 the Minnesota departments of Health, Agriculture and Natural Resources declared an advisory similar to North Dakota's – that food pantries discard any remaining donated venison.

What's next?

Several agencies are working to find more answers.

The Department of Health has added questions about eating venison to the screening process used when investigating cases of high blood-lead levels. In addition, the Health Department has contacted the U.S. Centers for Disease Control and Prevention about potential studies of the health effects of swallowing lead fragments.

Other states are also testing ground venison.

The Health, Agriculture, and Game and Fish departments will develop guidance for hunters and processors to reduce the chances of lead remaining in meat.

The objective for the future is to refine the process so the venison donation program, which serves thousands of North Dakotans, can resume its successful mission this fall.

What do you think? To pass along your comments, send us an e-mail at ndgfb@nd.gov; call us at 701-328-6300; or write North Dakota Game and Fish Department, 100 N. Bismarck Expressway, Bismarck, ND 58501.

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